S. Goldstein and Associates
consulting actuaries

GENERAL ASSEMBLY RETIREMENT SYSTEM OF ILLINOIS

ACTUARIAL VALUATION AS OF JUNE 30, 1989

S. Goldstein and Associates
consulting actuaries

One North LaSalle Street
Suite 4220
Chicago, Illinois 60602
(312) 726-5877

September 29, 1989

Board of Trustees
General Assembly Retirement System of Illinois
2815 West Washington
P.O. Box 19255
Springfield, Illinois 62794

Re: Actuarial Valuation As Of June 30, 1989

Gentlemen:

I am pleased to submit my actuarial report on the financial position and funding requirements of the General Assembly Retirement System of Illinois based on the actuarial valuation as of June 30, 1989.

The report consists of 11 Sections and 2 Appendices as follows:

I would be pleased to discuss any aspects of this report with you at your convenience.

Respectfully submitted,

Sandor Goldstein

Sandor Goldstein
Fellow of the Society of Actuaries
Enrolled Actuary No. 3402

A. PURPOSE AND SUMMARY

We have carried out an actuarial valuation of the General Assembly Retirement System of Illinois as of June 30, 1989. The purpose of the valuation was to determine the financial position and funding requirements of the retirement system. This report is intended to present the results of the valuation. The results are summarized below:

1.	Total actuarial liability	$	62,834,957
2.	Actuarial value of assets		34,194,756
3.	Unfunded actuarial liability		28,640,201
4.	Funded Ratio		54.4%
9.	Employer FY 90 funding requirement of normal cost plus amount required to pay off unfunded liability over 40 years as a level percent of payroll	$	2,376,310
10.	Employer contribution requirement for FY 91 under Public Act 86-0273	$	2,350,000
10.	Actuarial present value of credited projected benefits	$	62,834,957

B. DATA USED FOR THE VALUATION

Participant Data. The participant data required to carry out the valuation was supplied by the retirement system. The membership of the system as of June 30, 1989 on which the valuation was based is summarized in Exhibit 1. It can be seen that there were 184 active members, 202 members receiving retirement annuities, and 123 members receiving surviving spouse's annuities included in the valuation. The total active payroll as of June 30, 1989 was $7,592,956.

Exhibit 1

Summary of Membership Data

1. Number of Members.		
(a) Active Members		184
(b) Members Receiving		
(i) Retirement Annuities		202
(ii) Surviving Spouse's Annuties		123
(c) Inactive Members		86
2. Annual Salaries		
(a) Total salary	$	7,592,956
(b) Average Salary		41,266
3. Total accumulated employee contributions of active members	$	5,856,914
4. Annual Annuity Payments		
(a) Retirement Annuities	$	3,129,178
(b) Surviving Spouse's Annuities		629,808

Assets. The asset values used for the valuation were based on the asset information contained in the unaudited statement of assets as of June 30, 1989 prepared by the system. For purposes of the valuation, the book value of the assets of the system (assets valued at cost), less the amount of current liabilities, was increased by the average excess of the market value of assets over the book value of assets of the system as of the last three year ends. The resulting actuarial value of assets was $34,194,756. The development of this value is outlined in Exhibit 2.

Exhibit 2

Actuarial Value of Assets

1.	Total book value of assets	$ 31,728,880
2.	Current liabilities	51,374
3.	Net assets at book value (1-2)	$ 31,677,506
4.	Average excess of market value of assets over book value of assets over the last three years	2,517,250
5.	Actuarial value of assets	$ 34,194,756

C. RETIREMENT SYSTEM PROVISIONS

The regular actuarial valuation was based on the provisions of the retirement system in effect as of June 30, 1989 as provided in Article 2 of the Illinois Pension Code. A summary of the principal provisions of the

COVERED PAYROLL
FISCAL YEAR 1989

COVERED PAYROLL FOR FY '90:	
WITH P.A. 86-0027 INCREASES	$8,030,790
WITH OUT P.A. 86-0027 INCREASES	7,254,510
COVERED PAYROLL FOR FY '90 RELATING TO P.A. 86-0027 INCREASES	$ 776,280
LESS: POSITIONS NOT FILLED AT 6/30/89 (P.A. 86-0027)	
SENATE:	
ASST. MAJORITY LEADER (12,000)	
ASST. MINORITY LEADER (12,000)	
HOUSE:	
ASST. MAJORITY LEADERS (2) (21,000)	
DEPUTY MAJORITY LEADERS (2) (23,000)	
DEPUTY MINORITY LEADERS (2) (23,000)	
	(91,000)
COVERED PAYROLL FOR FY '89 RELATING TO P.A. 86-0027 INCREASES	$ 685,280
COVERED FY '89 PAYROLL PER ACTUARIAL REPORT	$ 7,592,956
LESS: COVERED PAYROLL FOR FY '89 RELATING TO P.A. 86-0027 INCREASES	(685,280)
	$ 6,907,676

system in effect as of June 30, 1989 is provided in Appendix 1.

Senate Bill 1258 which was signed into law on July 7, 1989 as Public Act 86-0027, and Senate Bill 95 which was signed into law on August 23, 1989 as Public Act 86-0273 made a number of significant changes in the provisions of the system. These benefit changes were not taken into account in the regular June 30, 1989 valuation as they were enacted after June 30, 1989. However, they were taken into account in the development of the State contribution requirement for Fiscal Years 1991-1996, which is included in Section H of this report. The major benefit changes enacted under Public Act 86-0027 and Public Act 86-0273 are summarized below:

Public Act 86-0027

For elected State executive officers, provides that salary for pension purposes shall be the salary received for the last year of service, without the previous limitation that it shall not exceed the salary for the highest salaried officer for the General Assembly.

Public Act 86-0273

(1) Provides that the 3% automatic annual increase in retirement annuity shall be based on the current amount of annuity instead of the original amount of annuity.

(2) Provides for 3% automatic annual increases in surviving spouse's annuities, based on the current amount of annuity.

(3) Provides for increases in a member's earned retirement annuity of 3% per year, commencing one year following the later of (a) completion of 20 years of service, and (b) attainment of 55.

D. ACTUARIAL ASSUMPTIONS AND COST METHOD

Actuarial Assumptions

The actuarial assumptions used for the June 30, 1989 actuarial valuation are similar to the actuarial assumptions used for the June 30, 1988 valuation, except that the interest rate assumption was increased from 7.5% to 8.0%. These actuarial assumptions were based on an experience analysis of the retirement system for the period 1984 through 1987. The major actuarial assumptions used for the current valuation are summarized below:

Mortality Rates The UP-1984 Mortality Table was used for the valuation.

Termination Rates. Termination rates based on the recent experience of the system were used. The following termination rates were used:

Age	Rate of Termination
20 - 54	.080
55 and over	.000

Disability Rates. Disability rates based on the recent experience of the system as well as on published disability rate tables were used. The following is a sample of the disability rates that were used for the valuation:

Age	Rate of Disability
30	.00057
35	.00064
40	.00083
45	.00115
50	.00170

Retirement Rates. Rates of retirement for each age from 55 to 70 based on the recent experience of the system were used. The following are samples of the rates of retirement that were used:

Age	Rate of Retirement
55	.2
60	.1
65	.1
70	1.0

The above retirement rates are equivalent to an average retirement age of approximately 62.

Salary Increase. A salary increase assumption of 6.0% per year, compounded annually, was used.

Interest Rate. An interest rate assumption of 8.0% per year, compounded annually, was used.

Marital Status. It was assumed that 75% of active members will be married at the time of retirement.

Spouse's Age. The age of the spouse was assumed to be 4 years younger than the age of the employee.

Actuarial Cost Method

The projected unit credit actuarial cost method was used for the June 30, June 30, 1988 valuation.

E. ACTUARIAL LIABILITY

The actuarial liability as determined under the valuation for the various classes of members is summarized in Exhibit 3. The total actuarial liability is then compared with the actuarial value of assets in order to arrive at the unfunded actuarial liability. (The actuarial terms used in this report are defined in Appendix 2)

As of June 30, 1989, the total actuarial liability is $62,834,957, the actuarial value of assets is $34,194,756 and the unfunded actuarial liability is $28,640,201. The ratio of the actuarial value of assets to the actuarial liability, or funded ratio, is 54.4%.

Exhibit 3

Actuarial Liability As Of June 30, 1989

1. Actuarial Liability For Active Members	
(a) Basic retirement annuity	$ 12,859,034
(b) Annual increase in retirement annuity	2,171,248
(c) Pre-retirement survivor's annuity	1,153,567
(d) Post-retirement survivor's annuity	2,590,213
(e) Withdrawal benefits	4,843,785
(f) Disability benefits	152,373
(g) Total	$ 23,770,220
2. Actuarial Liability For Members Receiving Benefits	
(a) Retirement annuities	$ 29,220,187
(b) Survivor annuties	4,842,277
(c) Total	$ 34,062,464
3. Actuarial Liability For Inactive Members	5,002,273
4. Total Actuarial Liability	$ 62,834,957
5. Actuarial Value of Assets	$ 34,194,756
6. Unfunded Actuarial Liability	$ 28,640,201
7. Funded Ratio	54.4%

Impact of Change in Interest Rate Assumption. We have estimated that the change in the interest rate assumption from 7.5% to 8.0% had the impact of decreasing the total actuarial liability as of June 30, 1989 by $3,360,420.

Impact of Benefit Changes Enacted Under Public Act 86-0027 and Public Act 86-0273. As indicated in Section C. of this report, the benefit increases enacted under Public Act 86-0027 and Public Act 86-0273 were not taken into account in determining the actuarial liability as of June 30, 1989. We have estimated that if these benefit increases had been taken into account, they would have had the impact of increasing the total actuarial liability as of June 30, 1989 by $7,325,929, to $70,160,886.

F. Employer's Normal Cost

The employer's share of the normal cost for the year beginning July 1, 1989 is developed in Exhibit 4. For the year beginning July 1, 1989, the total normal cost is determined to be $2,030,561, employee contributions are estimated to be $873,190, resulting in the employer's share of the normal cost of $1,157,371.

Based on a payroll of $7,592,956, the employer's share of the normal cost can be expressed as 15.24% of payroll.

Exhibit 4

Employer's Normal Cost For Year Beginning July 1, 1989

		Dollar Amount	Per Cent Of Payroll
1.	Basic retirement annuity	$ 969,4124	12.77%
2.	Annual increase in retirement annuity	156,808	2.07
3.	Pre-retirement survivor's annuity	105,460	1.39
4.	Post-retirement survivor's annuity	195,635	2.58
5.	Withdrawal benefits	470,393	6.20
6.	Disability benefits	13,929	.18
7.	Administrative expenses	118,924	1.57
8.	Total normal cost	$ 2,030,561	26.74%
9.	Employee contributions	873,190	11.50
10.	Employer's share of normal cost	$ 1,157,371	15.24%

Note. The above figures are based on a total active payroll of $7,592,956 as of June 30, 1989.

Impact of Benefit Changes Enacted Under Public Act 86-0027 and Public Act 86-0273. As was the case with the determination of the actuarial liability, the benefit increases enacted under Public Act 86-0027 and Public Act 86-0273 were not taken into account in determining the above normal cost figures. We have calculated that if these benefit increases had been taken into account, the total normal cost for the year beginning July 1, 1989 would be $2,312,089, which is 30.45% of payroll. The employer's share of the normal cost would be $1,438,899, or 18.95% of payroll.

G. EMPLOYER'S FUNDING REQUIREMENT FOR YEAR BEGINNING JULY 1, 1989

In past years, we have presented funding requirements determined under the following two alternative bases:

1. Normal cost plus interest on the unfunded liability, and

2. Normal cost plus the amount required to amortize the unfunded liability over 40 years as a level percent of payroll.

Public Act 86-0273 enacted a funding plan for the system under which, starting with Fiscal Year 1990, the State's contribution shall be increased incrementally over a 7 year period so that by Fiscal Year 1996, the minimum State contribution shall be an amount that, when added to other sources of employer contribution is sufficient to meet the normal cost and amortize the unfunded liability over 40 years as a level percent of payroll, determined under the projected unit credit actuarial cost method.

Thus, Public Act 86-0273 has legislated the funding requirement for the system to be normal cost plus 40 year level percent of payroll amortization of the unfunded liability (after the completion of the phase-in period).

For the current valuation, we have therefore determined an employer funding requirement for the year beginning July 1, 1989 based on the normal cost plus 40 year level percent of payroll amortization of the unfunded liability. Although the phase-in period provided in Public Act 86-0273 will not be complete until Fiscal Year 1996, this calculation provides a measure of the required State contributions for the year beginning July 1, 1989 under this approach in the absence of a phase-in period.

The employer's funding requirement of normal cost plus the amount required to amortize the unfunded liability over 40 years as a level percent of payroll is developed in Exhibit 6. It can be seen from Exhibit 6 that for the year beginning July 1, 1989, the employer funding requirement of normal cost plus the amount required to amortize the unfunded liability over 40 years as a level percent of payroll amounts to $2,376,310. Actual employer contributions for the year are estimated to amount to $2,072,600. Thus, employer contributions for the year are expected to fall short of meeting the employer funding requirement determined under this basis by $303,710. This deficiency in employer contributions can be expressed as 4.00% of payroll.

Exhibit 5

Funding Requirement For Year Beginning July 1, 1989

1.	Employer's share of normal cost	$ 1,157,371
2.	Amount required to amortize the unfunded liability over 40 years as a level percent of payroll	1,218,939
3.	Employer's total funding requirement (1. + 2.)	$ 2,376,310
4.	Estimated employer contribution for the year	2,072,600
5.	Estimate of amount by which employer contributions are expected to fall short of meeting the funding requirement (3. - 4.)	$ 303,710

II. STATE APPROPRIATION REQUIREMENTS FOR FISCAL YEARS 1991-1996

Senate Bill 95 which was signed into law on August 23, 1989 as Public Act 86-273 enacted the following funding plan for the system:

"Starting with the fiscal year which ends in 1990, the State's contribution shall be increased incrementally over a 7 year period so that by the fiscal year which ends in 1996, the minimum contribution to be made by the State shall be an amount that, when added to other sources of employer contributions, is sufficient to meet the normal cost and amortize the unfunded liability over 40 years as a level percentage of payroll, determined under the projected unit credit actuarial cost method. The State contribution, as a percentage of the applicable employee payroll, shall be increased in equal annual increments over the 7 year period until the funding requirement specified above is met."

Based on the June 30, 1989 actuarial valuation, we have determined the required contributions under this plan for fiscal years 1991 - 1996. The required contribution rates and amounts are as follows:

Fiscal Year	Normal Cost	Amortization of Unfunded Liability	Total Required Rate	Assumed Payroll	Total Required Contribution
1991	18.95%	10.53%	29.48%	$ 7,973,000	$2,350,000
1992	18.95%	12.71%	31.66%	8,371,000	2,650,000
1993	18.95%	14.89%	33.84%	8,790,000	2,975,000
1994	18.95%	17.07%	36.02%	9,229,000	3,324,000
1995	18.95%	19.25%	38.20%	9,691,000	3,702,000
1996	18.95%	21.43%	40.38%	10,175,000	4,109,000

The contribution requirements are shown on a gross basis. The regular State appropriation requirement can be determined by adjusting for State Pension Fund appropriations and other sources of employer contributions.

The contribution requirements shown above have been determined using the actuarial assumptions and membership data that were used for the regular June 30, 1989 actuarial valuation. In order to determine the projected contribution rates and amounts, the following additional assumptions and estimates were used:

1. Total payroll of $7,592,956 for fiscal year 1990.

2. Assumed increase in total payroll of 5% per year.

3. Total employer contributions of $2,072,600 for fiscal year 1990.

Method of Calculation

The above contribution rates were determined in the following manner:

The projected unit credit actuarial cost method was used. The normal cost rate determined for the year beginning July 1, 1989 was first adjusted to take into account the effect of the benefit increases enacted under Public Act 86-0023 and Public Act 86-0273. This resulted in an employer's normal cost rate of 18.95% of payroll. Next, the difference between the total 1990 appropriation and the required normal cost was considered the 1990 amortization payment, and this payment was converted to a percentage of the expected 1990 payroll. An amortization schedule was then determined using the following approach:

1. The unfunded actuarial liability existing at June 30, 1989, including effect of the benefit increases enacted under Public Act 86-0023 and Public Act 86-0273, was determined. This unfunded liability was determined to be $35,966,130.

2. Amortization rates for fiscal years 1991 - 1996 were determined in such a manner that the rate for any one year would exceed the rate for the previous year by a uniform percentage of payroll.

3. The amortization rates for fiscal years 1996 - 2035 would be a uniform percentage of payroll.

The normal cost rate calculated on the basis of the June 30, 1989 valuation was assumed to remain unchanged for future years at 18.95% of payroll.

In the future, the amortization and normal cost schedules will be revised as follows:

1. Gains and losses (including contribution shortfalls) for a fiscal year will affect contribution rates for the fourth following fiscal year.

2. A change in actuarial assumptions adopted as of the end of a fiscal year year will affect contribution rates for the second following fiscal year.

3. Benefit increases enacted during any fiscal year will affect contribution rates for the second following fiscal year.

4. Amortization schedules will be revised on the assumption that the amortization will be completed by June 30, 2035, that the rates for fiscal years after 1995 will be a uniform percentage of payroll, and that 1991 - 1996 is a phase-in period. There will be no phase-in period for changes in normal cost.

I. RECONCILIATION OF CHANGE IN UNFUNDED LIABILITY

The net actuarial experience during the period July 1, 1988 to June 30, 1989 resulted in a decrease in the system's unfunded actuarial liability of $3,039,979. This decrease in unfunded liability is a result of several kinds of gains and losses. The financial effect of the most significant gains and losses is illustrated in Exhibit 7.

The employer funding requirement for the year of normal cost plus interest on the unfunded actuarial liability amounted to $3,514,623, whereas the actual employer contribution for the year amounted to $1,997,500. Thus, the employer contribution for the year fell short of meeting normal cost plus interest on the unfunded liability by $1,517,123. Had all aspects of the system's experience been in line with the actuarial assumptions, the unfunded liability would have increased by this amount.

The change in the interest rate assumption from 7.5% to 8.0% resulted in a decrease in the unfunded liability of $3,360,420.

The net rate of investment return for the year, based on the actuarial value of assets, was 8.4% in comparison with the assumed rate of investment return of 7.5%. This resulted in a decrease in the unfunded liability of $301,000. Salaries increased at an average rate of 11.1% per year in comparison with an assumed rate of 6.0% per year, resulting in an increase in the unfunded liability of $1,192,000.

The various other aspects of the system's experience resulted in a net decrease in the unfunded liability of $2,087,682.

The aggregate financial experience of the system resulted in an decrease in the unfunded liability of $3,039,979.

Exhibit 6

Reconciliation of Change in Unfunded Liability
Over the Period July 1, 1988 to June 30, 1989

1.	Unfunded actuarial liability as of 7/1/88	$ 31,680,180
2.	Employer contribution requirement of normal cost plus interest on the unfunded liability for the period 7/1/88 to 6/30/89	3,514,623
3.	Actual employer contribution for the year	1,997,500
4.	Increase in unfunded liability due to employer contributions being less than normal cost plus interest on unfunded liability	1,517,123
5.	Decrease in unfunded liability due to increase in interest rate assumption from 7.5% to 8.0%	3,360,420
6.	Decrease in unfunded liability due to investment return greater than assumed	301,000
7.	Increase in unfunded liability due to salary increases greater than assumed	1,192,000
8.	Decrease in unfunded liability due to other sources	2,087,682
9.	Net decrease in unfunded liability for the year (5+6+8-4-7)	$ 3,039,979
10.	Unfunded actuarial liability as of 6/30/89 (1-9)	$ 28,640,201

J. Actuarial Present Value of Credited Projected Benefits

In November 1986, the Governmental Accounting Standards Board (GASB) issued Statement No. 5 entitled Disclosure of Pension Information by Public Employee Retirement Systems and State and Local Governmental Employers. The statement established standards of disclosure of pension information by public employee retirement systems.

GASB Statement No. 5 requires the disclosure of the actuarial present value of credited projected benefits as the standardized measure of the accrued pension obligation. This measure represents the discounted value of the amount of benefits estimated to be payable in the future as a result of employee service to date, computed by attributing an equal benefit amount to each year of service of the employee.

It should be noted that the actuarial present value of credited projected benefits is equal to the actuarial liability computed under the projected unit credit actuarial cost method. Since the projected unit credit actuarial cost method was used for the valuation, the total actuarial liability of $62,834,957 as developed in Section E of this report is also the actuarial present value of credited projected benefits that is required to be disclosed under GASB Statement No. 5.

In Exhibit 8 we have shown the actuarial present value of credited projected benefits in the format prescribed in GASB Statement No. 5. It can be seen that the total actuarial present value of credited projected benefits of $62,834,957 is the same as the total actuarial liability under the projected unit credit actuarial cost method.

The increase in the interest rate assumption from 7.5% to 8.0% had the effect of decreasing the actuarial present value of credited projected benefits by $3,360,420.

Exhibit 7.

Actuarial Present Value of Credited Projected Benefits

1. For members in receipt of benefits and for inactive members	$ 39,064,737
2. For current employees	
Accumulated employee contributions	5,856,914
Employer-financed vested	12,316,308
Employer-financed nonvested	5,596,998
3. Total actuarial present value of credited projected benefits	$ 62,834,957
4. Net assets available for benefits, at cost (Market value is $35,129,825)	$ 31,677,506
5. Unfunded actuarial present value of credited projected benefits	$ 31,157,451

K. THREE YEAR PROJECTION OF COSTS AND LIABILITIES

Based on the results of the June 30, 1989 valuation and using the actuarial assumptions used for the valuation, we have projected valuation results for the next three years. The projections were done under the assumption that State contributions would be made on the basis of the funding plan specified in Public Act 86-0273, using the contribution rates determined in Section H. We have also assumed that the total payroll would increase at the rate of 5% per year. The results of our projections are shown in Exhibit 9 below:

Exhibit 8

Three Year Projection of Costs and Liabilities

(Assuming State Contributions Are Made on the Basis of Public Act 86-273)

	Fiscal Year Ending June 30		
	1990	1991	1992
1. Number of Active Members	184	184	184
2. Expected Total Payroll	$ 7,593,000	$ 7,973,000	$ 8,371,000
3. Actuarial Liability	$73,669,000	$77,352,000	$81,220,000
(Retired Lives Reserves)	(38,974,000)	(40,923,000)	(42,969,000)
4. Assets (Actuarial Value)	$35,903,000	$37,878,000	$40,155,000
5. Unfunded Actuarial Liability	$37,766,000	$39,474,000	$41,065,000
(Funded Percentage)	(48.7%)	(49.0%)	(49.4%)
6. Annual Normal Cost			
(a) Total	$ 2,030,000	$ 2,428,000	$ 2,549,000
(b) Employee Contributions	873,000	917,000	963,000
(c) Employer's Share	1,157,000	1,511,000	1,586,000
(% Total Payroll)	(15.24%)	(18.95%)	(18.95%)
7. State Contribution	$ 2,073,000	$ 2,350,000	$ 2,650,000
(% Total Payroll)	(27.30%)	(29.48%)	(31.66%)
8. Estimated Benefit Payout	$ 3,759,000	$ 3,947,000	$ 4,144,000

L. CERTIFICATION

This actuarial report has been prepared in accordance with generally accepted actuarial principles and practices and to the best of my knowledge, fairly represents the financial condition of the General Assembly Retirement System of Illinois as of June 30, 1989.

Respectfully submitted

Sandor Goldstein

Sandor Goldstein
Fellow of the Society of Actuaries
Enrolled Actuary No. 3402

Appendix 1

Summary of Principal Provisions

1. Participation. A person eligible for membership must participate in the system as a condition of employment unless an "Election Not to Participate" is filed within 24 months from the date of assuming office.

2. Member Contributions. All members of the system are required to contribute to the system the following percentage of their salaries:

Retirement Annuity	8.5%
Automatic Annuity Increase	1.0
Survivor's Annuity	2.0
Total	11.5%

3. Retirement Annuity-Eligibility. A member who has at least 8 years of creditable service is entitled to a retirement annuity upon attainment of age 55. A member with at least 4 years but less than 8 years of service is entitled to a retirement annuity upon attainment of age 62.

A member with at least 8 years of service who becomes disabled while in service is entitled to a retirement annuity regardless of age.

4. Retirement Annuity-Amount. The retirement annuity is determined according to the following formula based upon the member's final rate of salary:

3.0% for each of the first 4 years of service, plus
3.5% for each of the next 2 years of service, plus
4.0% for each of the next 2 years of service, plus
4.5% for each of the next 4 years of service, plus
5.0% for each year of service in excess of 12

The maximum retirement annuity payable is 85% of the final rate of salary.

5. Automatic Increase In Retirement Annuity. Annual automatic increases of 3% of the originally granted retirement annuity are provided. The initial increase is effective in the month of January of the year next following the year in which the first anniversary of retirement occurs, but in no event prior to attainment of age 60.

6. Survivor's Annuity - Eligibility. A surviving spouse without children is eligible for survivor benefits at age 50 or over provided marriage to the member had been in effect for at least 1 year immediately prior to the member's death.

A surviving spouse with unmarried eligible children of the member is eligible for a survivor's annuity benefit at any age provided the above marriage requirements have been met. When all children are disqualified because of death, marriage or attainment of age 18, the spouse's benefit is suspended if the spouse is under age 50 until the attainment of such age.

An unmarried child of the member under the age of 18 may qualify for the survivor's annuity if there is not surviving spouse or if the spouse remarries prior to attainment of age 55 or dies.

If the member dies in service, the member must have at least 2 years of service credit for survivor's annuity eligibility. If death occurs after termination of service but before retirement, the deceased member must have at least 8 years of service credit for survivor's annuity eligibility.

7. Survivor's Annuity - Amount. (a) A surviving spouse is entitled to a survivor's annuity of 66 2/3% of the amount of retirement annuity to which the member was entitled on the date of death, without regard to whether the member had attained age 55 as of the time of death, subject to a minimum payment of 10% of salary.

(b) If a surviving spouse has in his or her care eligible children of the member, the survivor's annuity shall be the greater of the following: (1) 66 2/3% of the amount of retirement annuity to which the member was entitled on the date of death, or (2) 30% of the member's salary increased by 10% of salary on account of each eligible child. If only unmarried children survive, each such child shall be entitled to an annuity of 20% of salary, subject to a maximum total payment for all children of 50% of salary.

(c) Upon the death of a member after termination of service, or upon the death of an annuitant, the maximum total payment to a surviving spouse and eligible children, or eligible children alone if there is no surviving spouse, shall be 75% of the retirement annuity to which the member or annuitant was entitled.

8. Refund Of Contributions. Upon termination of service, a member is entitled to a refund of his total contributions without interest.

If unmarried at the time of retirement, a member is entitled to a refund of his or her contributions for the survivor's annuity.

Appendix 2

Glossary of Terms used in Report

1. Actuarial Present Value. The value of an amount or series of amounts payable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.

2. Actuarial Cost Method or Funding Method. A procedure for determining the actuarial present value of pension plan benefits and for determining an actuarially equivalent allocation of such value to time periods, usually in the form of a normal cost and an actuarial accrued liability.

3. Normal Cost. That portion of the actuarial present value of pension plan benefits which is allocated to a valuation year by the actuarial cost method.

4. Actuarial Liability or Accrued Liability. That portion, as determined by a particular actuarial cost method, of the actuarial present value of pension benefits which is not provided for by future normal costs.

5. Actuarial Value of Assets. The value assigned by the actuary to the assets of the pension plan for purposes of an actuarial valuation.

6. Unfunded Actuarial Liability. The excess of the actuarial liability over the actuarial value of assets.

7. Entry Age Actuarial Cost Method. A cost method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided at a valuation date by the actuarial present value of future normal costs is called the actuarial liability.

8. Projected Unit Credit Actuarial Cost Method. A cost method under which the actuarial liability is the actuarial present value of that portion of an employee's projected benefit that is attributable to service to date on the basis of future compensation projected to retirement. The normal cost represents the actuarial present value of the employee's projected benefit that is attributable to service in the current year, again based on future compensation projected to retirement.

9. Actuarial Assumptions. Assumptions as to future events affecting pension costs.

10. Actuarial Valuation. The determination, as of a valuation date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for a pension plan.